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## **Astronauts' behaviour onboard the International Space Station: regulatory framework**

### **1. Background**

Astronauts' behaviour onboard the International Space Station (ISS) is covered by two different sets of rules. First, the general conduct of an astronaut is covered by the provisions of a dedicated Code of Conduct<sup>140</sup>, which is an autonomous and unique piece of programme documentation developed by the ISS Cooperating Agencies in the year 2000, and given legal standing in the various ISS Partner States' legal systems through the different means explained below. The ISS Code of Conduct is applicable to an astronaut from the time of the astronaut's designation as an ISS expedition crew member or as a visiting crew member to the ISS by the competent astronaut management body of the partnership. Second, the criminal conduct of an astronaut onboard the ISS, something which is clearly distinct from the type of behaviour covered in the ISS Code of Conduct, will subject the alleged perpetrator of the criminal act to the jurisdictional rules of prosecution spelled out in Article 22 of the ISS Intergovernmental Agreement.

There should be a genuine interest in better understanding the functioning of the rules applicable to the behaviour of astronauts onboard the ISS since the legal framework established for regulating the various activities pursued through ISS cooperation will apply in some manner to all space activities involving astronauts for the foreseeable future<sup>141</sup>. Obviously, they will apply as

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<sup>140</sup> The Code of Conduct for the International Space Station Crew (the ISS Code of Conduct) was approved on 15 September 2000 by the Multilateral Coordination Board, the highest level coordination body established through the ISS Agreements (the Intergovernmental Agreement of 29 January 1998 and the 4 Memorandums of Understanding – MOUs – between NASA and each of the four other ISS Cooperating Agencies, i.e. the Russian Space Agency, the European Space Agency, the Canadian Space Agency and the Government of Japan acting on behalf of various Japanese government agencies). The ISS Code of Conduct (US Federal Register: December 21, 2000, Volume 65, Number 246 of Rules and Regulations, pages 80302-80306) can be consulted on Internet at: <http://www.spaceref.com/news/viewpr.html?pid=3418>.

<sup>141</sup> In the foreseeable future, the manned spaceflight missions to be carried out could be categorised as follows: (a) those related to exploitation, i.e. utilisation and operation, of the ISS by the Partner States' governments, which will pursue their public service mission in that field; (b) those related to the start up of a number of initiatives in the frame of space exploration programmes and strategies currently being developed by a number of space-faring

they were developed for forthcoming ISS activities, and also they will likely be borrowed, or serve as a point of departure, for developing new sets of rules to cover forthcoming manned space activities.

One of the most difficult challenges at this stage for officials involved in the development of rules affecting the astronauts' behaviour is to ensure that the rules developed by governments, in instruments of public international law, are correctly incorporated in the various national legal systems, through the adoption of legislation or otherwise, so as to enable the courts of those States to render decisions implementing the rules, decisions that could provide for the prescription of sanctions or damages when appropriate.

Following the announcement of the US space exploration initiative by US President Bush on 14 January 2004, US officials have emphasised the role that the private sector is called to play in the forthcoming space exploration activities, and thus the need to factor into the preparation of those activities the appropriate means for safeguarding the rights of the players from the private sector, in particular for the protection of their property rights. This shows the importance of developing national legislation, possibly incorporating the gist of the commitments made among the governments carrying on cooperation activities, which could provide incentive for the private sector to get involved in space exploration.

## **2. *The ISS Code of conduct***

### **2.1. Point of departure**

The basic idea of developing the ISS Code of Conduct governing the behaviour of astronauts in the frame of ISS cooperation comes from the necessity for space agencies to obtain from these individuals a consent to abide by certain basic rules, or subject them to these rules through other legally sound means, concerning the respect of hierarchy and commands, the avoidance of conflict of interest and the limitations concerning personal equipment.

The closest approximation to this ISS Code of Conduct until then was a "Standard of Conduct Agreement" which a mission specialist sent by a foreign organisation such as ESA for training in the United States was required to sign before being assigned to a specific US Space Shuttle flight. More precisely, the main purpose of this type of document is to obtain the person's consent to be subject to the authority, orders and direction of the Commander, to limit the disclosure of protected data and to refrain from using his or her position, or information obtained in the course of the mission, for personal gain.

### **2.2 Objectives for developing a Code of Conduct**

Codes of conduct are generally used by universities, or other private or public organisations such as large international business entities, to promote and advertise common broad values, and to impose restrictions on the use of practices judged unacceptable. One of the consequences of the adoption of a code of conduct is to enhance the credibility of the corresponding organisation in the market, or in society at large. It could also have the benefit of providing some means of defence for the organisation against claims that could be submitted by victims of unfair practices or deviant conduct, for example by victims of harassment in universities.

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nations, and (c) those generated by the development of space tourism activities by the private sector, possibly with some form of public sector's involvement.

What is particularly true is the code of conduct provides for a course of action, leading possibly to the application of some form of sanction on the individuals having disregarded the rules spelled out in the code, which is viewed as just and equitable. Interesting enough is the fact that, through the adoption of a code of conduct, organisations have shown a keen interest to develop under their own authority a framework governing some aspects of the behaviour of their employees, suppliers or other users or stakeholders, also keeping within their control the application of the prescribed remedies and sanctions.

## **2.3 The ISS Crew Code of Conduct**

The ISS Partners have laid down in the IGA and MOUs<sup>142</sup> how the ISS Code of Conduct should be drafted, an exercise guided by an outline of its content in the MOUs, then approved, and finally accepted before an Agency is authorised to provide Space Station crew members<sup>143</sup>.

### *2.3.1 Scope of the behaviour affected by the Code of Conduct and other rules*

When reading the ISS Code of Conduct, one may be surprised by the number and scope of the various sets of regulations that will apply specifically to the ISS crew, bearing in mind that a number of provisions of the IGA and MOUs are also directly relevant to astronaut activities and, as such, they are affecting the interests of astronauts.

In addition to the ISS Code of Conduct itself and the related disciplinary policy, a crew member is subject to the provisions of the ISS Flight Rules and the other requirements imposed by the Cooperating Agency providing him or her, those related to the Earth to Orbit Vehicle (ETO) being used for the mission, those defined by the various ISS cooperation bodies listed in Article 11 of the MOUs dealing with various aspects of astronaut matters and, finally, to the requirements contained in the rules of the various institutions hosting the training. It is therefore normal that the ISS Code of Conduct specifies that the ISS crew member has a right to know about these requirements and that he or she will be educated as to the applicable rules by the Cooperating Agency providing him or her, through the crew training curriculum and normal programme operations.

### *2.3.2 The ISS disciplinary policy*

Attached to the ISS Code of Conduct is a broadly worded disciplinary policy<sup>144</sup>, which is to be further expanded through detailed documentation being established on the various steps it

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<sup>142</sup> Article 11.6 of the MOUs provide that: "The Space Station Code of Conduct will, inter alia: establish a clear chain of command on-orbit; clear relationship between ground and on-orbit management; and management hierarchy; set forth standards for work and activities in space, and, as appropriate, on the ground; establish responsibilities with respect to elements and equipment; set forth disciplinary regulations; establish physical and information security guidelines; and provide the Space Station Commander appropriate authority and responsibility, on behalf of all the partners, to enforce safety procedures and physical and information security procedures and crew rescue procedures for the Space Station."

<sup>143</sup> On 15 September 2000 in Washington DC, the Multilateral Control Board (MCB), the highest-level cooperative body established pursuant to the MOUs, approved the ISS Code of Conduct for International Space Station Crew. That document contains a set of standards agreed by all partners to govern the conduct of ISS crew members, starting with the first expedition crew launched from Baikonur in Kazakhstan on 31 October 2000. These standards had been developed over the previous six months by teams of cooperating agency officials, working in close consultation with the competent authorities of the ISS Partner States.

outlines. The policy covers matters on which the Multilateral Crew Operations Panel (MCOP) will exercise a central role, such as the procedure required for submitting a statement asserting violation of a prescription of the ISS Code of Conduct by a crew member, examining and making determination on this statement, the manner in which a decision may be revised and the type of disciplinary measures that could be imposed depending whether the violation occurred on earth or during the flight.

The interest of this disciplinary policy lies in the implicit recognition by the Cooperating Agencies that their astronauts' behaviour may be subject to a process which is administered not only on the basis of their own personnel policy but also of rules developed by the ISS partnership. This two-step approach has the advantage of enabling the cooperating Agency concerned to apply, though the process exercised pursuant to its own rules of personnel, the relevant provisions of national laws, regulations and policies.

This leads to a differentiated treatment of astronauts depending on which astronaut corps they belong, or are associated with in the case of spaceflight participants. This is understandable when we consider that matters such as what constitutes unacceptable personal gain or harassment, which may open up disciplinary measures in the ISS Code of Conduct, are defined and sanctioned in different manners depending of the jurisdiction. However, the possibility for the partners to collectively examine cases of infringement inject a certain degree of uniformity in the treatment of astronauts' behaviour.

The disciplinary policy provides that the MCOP is responsible for the development of the documentation establishing the details of the said disciplinary policy, a task which it has not carried out so far. It would give much more credibility to the ISS Code of Conduct if a clear procedure had been established for the purpose of giving the representatives of the ISS Partners the basis for being seized with, and giving full consideration to, a particular case of infringement of the ISS Code of Conduct's provisions by an astronaut, including for the imposition of sanctions. In other words, although the ISS Code of Conduct provides for a multilateral treatment of disciplinary matters over and above the measures to be taken by the individual cooperating Agency, there is no clear procedure at this stage for doing so.

Since the sanctions listed out in the existing disciplinary policy comprise a verbal warning, a written reprimand and a removal from the crew, one may conclude that such sanctions do not constitute an efficient enough deterrent that would ensure that a spaceflight participants, carrying out a one-off flight onboard the ISS, would not infringe the provisions of the ISS Code of Conduct. The MCOP may want to consider the opportunity of introducing financial sanctions, to be agreed to contractually with spaceflight participants, that could be assimilated to fines that could be levied on spaceflight participants infringing provisions of the ISS Code of Conduct.

### *2.3.3 Noteworthy issues covered by the ISS Code of Conduct*

#### *2.3.3.1 Timeline of the application of the ISS Code of Conduct*

The provisions of the ISS Code of Conduct apply to an ISS crew member from the time he or she is assigned to a specific ISS expedition or a flight opportunity, until completion of post-flight activities. Some provisions of the ISS Code of Conduct, for example those outlining the

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<sup>144</sup> The disciplinary policy for ISS crew, appended to the ISS Code of Conduct, has been developed by the Multilateral Crew Operations Panel (MCOP), a cooperation body established through Article 11 of the MOUs, and approved by the MCB, together with the ISS Code of Conduct, on 15 September 2000.

responsibilities of the Commander onboard the ISS, are obviously not relevant to the activities of the astronaut while on the ground, training for the flight or conducting activities on return from the ISS, although the Commander at these stages is still “directing the activities of the ISS Crew Members as a single integrated team to ensure the successful completion of the mission.”

In addition, the requirements outlined in regulations pertaining to the space vehicle used by the crew member must also be observed. The ISS Code of Conduct applies to visiting crew members who will be staying on the ISS for only few days: the basic idea is that, while on board for a visit or for a full long-duration mission (expedition), all crew members are covered by the same legal prescriptions and are subject to the authority of the Commander.

#### *2.3.3.2 Private gains*

The ISS Code of Conduct stipulates that a crew member must refrain from any use of that status motivated by private gain. This requirement is not limited in time but it was understood that each Agency will have to deal with the conditions applicable to post employment activities of astronauts and determine what is acceptable in terms of compensation, for example in the form of bonuses or special remuneration for non-government agents. Making a distinction between personal effects and mementos that could be carried on board by the crew members, the Agencies agreed that constraints of manifest, safety and stowage allocation were already sufficient and that there was no need for the ISS Code of Conduct to spell out the discretion exercisable by an Agency in this regard.

#### *2.3.3.3 Harassment*

Some of the officials involved in the drafting of the ISS Code of Conduct were adamant that “zero tolerance” must be enforced in or on the ISS for interpersonal or group harassment, as an express provision of the ISS Code of Conduct. The discussion showed the difficulty of harmonising the Partners’ respective legal concepts of harassment in a multi-national environment. In order to accommodate the multiplicity of views, it was decided to repeat in the general rules of conduct for the crew member outlined in Section II of the ISS Code of Conduct a sentence originally drafted for the next section pertaining to the Commander’s responsibilities. This sentence calls for the need to “maintain a harmonious and cohesive relationship among the crew and assure an appropriate level of mutual confidence and respect.” In other words, the Agencies recognised that such language would make the application of sanctions possible in case where the MCOP determined that harassment had taken place.

#### *2.3.3.4 Authority of the Commander over payloads*

An issue discussed during the negotiations of the ISS Code of Conduct was whether or not the authority of the Commander should extend to payloads and be put in relation with the Commander’s responsibility to preserve the safety of the crew and the ISS. Also interesting in this context is to note that an explicit interpretative sentence has been added stating that nothing in the relevant section of the ISS Code of Conduct would affect the designation by the MCOP of an individual of any Partner State to be a Commander.<sup>145</sup>

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<sup>145</sup> This addition has the double advantage of being the first recognition in writing at such a high level of the rotation principle for designation of the Commander and the fact that no national of a non-Partner State can become Commander.

#### *2.3.3.5 Use of force onboard the ISS*

Despite long discussions on the matter, the negotiators did not include an explicit reference in the ISS Code of Conduct to the possibility for the Commander to make some use of force, thus contending that the reference to the right of the Commander to use “reasonable and necessary means” to discharge his or her responsibilities was sufficient to cover that possibility. It was agreed, however, that the minutes of the MCB meeting dedicated to the approval of the ISS Code of Conduct would contain an interpretative statement to the effect that reasonable and necessary means may include the use by the Commander of proportional physical force or restraint, where necessary to ensure the immediate safety of the ISS Crew Member or the ISS itself.

#### *2.3.3.6 Proprietary and export-controlled data generated in or on the ISS*

The Agencies examined the need to protect data generated by activities conducted in or on the ISS when such data could be considered to be “proprietary” or “export-controlled”. They agreed that it is up to each Cooperating Agency, or the data owner or provider to give instruction to their astronauts for the marking of data generated onboard the ISS, and consequently trigger the application of the protective measures provided for in Article 19.4 of the IGA. The Partners were, for all practical purposes, extending the marking procedure to data that were not necessarily to be exported or otherwise transferred to another Cooperating Agency. Such an extension of the original scope of the marking, justified by paragraph 8 of Article 19 calling for the establishment of guidelines pertaining to the security of information, was deemed necessary because of the presence onboard the ISS at any given time of crew members of more than one Partner.

#### *2.3.3.7 Legal basis for implementation of the ISS Code of Conduct*

The Agencies have been interested by the steps to be taken on a solid legal basis in order to persuade astronauts to abide by the rules outlined in the ISS Code of Conduct, albeit on a voluntary basis, as part of additional terms and conditions enabling them to pursue astronaut activities as employees of a Cooperating Agency. These steps are necessary to eliminate doubt as to the right of an Agency to require an astronaut to abide by these rules when assigned to an ISS expedition or possibly face the prescribed sanction in case of their violation.

The ISS Code of Conduct has been implemented in ESA, on behalf of the ISS European Partner States, through a directive of the ESA Director General addressed individually to the members of the European Astronaut Corps (EAC) in which they were invited to agree in writing to the terms and conditions of the ISS Code of Conduct, a process which is set out in the ESA Staff Regulations and the ESA Astronaut Policy, both sets of rules governing the employment of the astronauts.

In the United States, the ISS Code of Conduct has become part of the United States astronauts’ terms and conditions of employment through the adoption on 1 October 2000 of corresponding regulation under NASA’s existing legislation. In Japan, the ISS Code of Conduct has been incorporated into regulations consistent with the terms of the legislation that established the National Development Space Agency (NASDA) and Japanese astronauts, at the time employees of NASDA (which has been succeeded by JAXA), have been invited to sign up to the terms of the ISS Code of Conduct. Similarly in Russia, the cosmonauts were invited to sign up individually to the terms of the ISS Code of Conduct, once it became part of the regulations and policies applicable to the Russian Space Agency (now Roskosmos). In Canada, where astronauts are appointed by decision of the Cabinet, the ISS Code of Conduct became part of the terms and conditions of astronauts’ employment through adoption of an Order in Council by the Cabinet.

### **3. Criminal jurisdiction**

The issue of criminal jurisdiction in the IGA is undoubtedly the most complex of all when examined from the angle of its potential to affect astronauts. It has to be remembered that in many countries, an astronaut enjoys national hero status and is often referred to as an envoy of mankind to outer space. Among the procedures applied in the selection of astronauts, whether professional astronauts or spaceflight participants, background checks make sure that candidates not only have no criminal record but show no propensity for criminal or otherwise deviant behaviour. The possibility of any crime being committed in or on the ISS is therefore extremely remote.

With the arrival of Russia in the partnership in the mid 1990's, it became obvious that Article 22 of the IGA concluded by the four founding Partners in 1988 had to be amended to bring its provisions into line with the spirit of genuine partnership, and amendments gradually took shape throughout the negotiation process leading to the new IGA signed on 29 January 1998.

#### **3.1 Basis for criminal prosecution: State of nationality exercises jurisdiction**

Drawing on certain precedents in international law, the Partner States confirmed that the primary basis for exercising jurisdiction, which means initiating prosecution by a Partner State's competent authorities, was the nationality of the alleged perpetrator. Thus, each Partner State has to make sure that it has taken appropriate measures in its national legal system to enable its competent authorities to initiate criminal prosecution against an astronaut of that State's nationality, and also enable the competent courts to actually exercise jurisdiction over the case, when receiving evidence that the astronaut concerned may have committed a particular criminal act included in the various categories of criminal acts designated, by that State, to be subject to prosecution when committed onboard the ISS. In other words, the ISS Partner States have to consider measures not only to actually exercise their criminal jurisdiction but also to categorise the crimes which will be targeted for prosecution. In this connection, the United States have proclaimed that only the crimes established pursuant to United States Federal statutes are applicable onboard the ISS.

#### **3.2 Accessory jurisdiction of the victim State**

As an alternative, although a fairly remote one as we will see later, provisions were developed allowing any "affected" Partner State other than the one of nationality to exercise criminal jurisdiction over an alleged perpetrator in case of misconduct that had caused damage to its flight element or had been directed against the life or safety of a crew member who was a national of an affected Partner State. The actual exercise of criminal jurisdiction by an affected Partner State is conditional on its consulting with the State of nationality, the latter being under an obligation to agree to such consultation, and receiving concurrence from that State in such exercise of jurisdiction or on the latter's failure to provide assurances that it will submit the case to its competent authorities for the purpose of prosecution<sup>146</sup>.

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<sup>146</sup> At the occasion of the discussion of the Canadian Bill pertaining to the ratification of the IGA by Canada, a senator argued that the IGA may have the effect of subjecting Canadian astronauts to the death penalty applied by the United States. This remark reflected the preoccupation of a number of ISS Partner States voiced during the negotiations. However, it has to be emphasised that the possibility for the United States to prosecute a non-United States national astronaut, or to prosecute that astronaut for a crime sanctioned by the death penalty, is so remote as to be practically non-existent. First, the exercise of jurisdiction pursuant to Article 22.2 of the IGA by any Partner

### **3.3 Considerations related to the exercise of criminal jurisdiction**

A number of issues related to the exercise of criminal jurisdiction as envisaged in the IGA were extensively discussed, without necessarily having been reflected in Article 22. One was the possibility of establishing an outright obligation on the State of landing to take appropriate means to ensure the immediate return of the alleged perpetrator to his or her State of nationality, pending any dealings between that State and any affected Partner State concerning their respective prosecutorial interests, these dealings possibly extending for a number of months. Extradition was also discussed in the context of the redrafting of Article 22 of the IGA. It was decided that the IGA could, at the discretion of the Partner States concerned if applicable laws would allow it, serve as a basis for proceeding with the extradition of an alleged perpetrator from the territory of a Partner State to that of another if the Partner States concerned had not otherwise established an extradition agreement.

A further addition made to Article 22 was a general reference to the obligation for the Partner States to extend to each other legal assistance in cases covered by its provisions, subject to their respective national laws and regulations. The relevance of this clause is obvious because there will be a need, in some instance,s to bring back to earth from the ISS, and then transfer from the State of landing to the State exercising criminal jurisdiction pursuant to Article 22, some exhibits for submission as evidence in a criminal trial.

Finally, although the matters dealt with in the ISS Code of Conduct and the exercise of criminal jurisdiction should not normally overlap, clarification was added in Article 22 to stress that the Partners do not intend, through the application of Article 22, to limit the authorities and procedures for the maintenance of order and the conduct of crew activities established in the ISS Code of Conduct and, conversely, that the ISS Code of Conduct is not intended to limit the exercise of criminal jurisdiction pursuant to Article 22.

It is important to note that the basic rules for prosecuting ISS astronauts are valid only for nationals of ISS Partner States. In other words, the arrangement limiting to the State of nationality the possibility to prosecute an alleged perpetrator in case of a crime being committed onboard the ISS is derogative of the basic rule applicable pursuant to the Outer Space Treaty of 1967, and these arrangements can only apply inside the existing partnership. This entails that, for astronauts who are nationals of States other than those having signed the IGA, prosecution in the exercise criminal jurisdiction will eventually be done by the State(s) exercising their jurisdiction over the flight element, or the flight elements, in which the crime would have allegedly taken place, consistent with the prescriptions of the above Treaty. This differentiated treatment of astronauts for the purpose of applying criminal jurisdiction onboard the ISS makes the matter more complex for the partnership. One can envisage that, whenever flight rules are developed by the interested ISS Partners for providing instructions in the manner of handling a situation in

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State over the astronaut of a nationality other than the one of that State can be envisaged only if the State of nationality had refused to consider whether there is sufficient evidence to lay charges. It is inconceivable that government officials would not look into the possibility of laying charges if evidence shows that a serious crime had been committed. Second, since only crimes under United States Federal statutes are applicable onboard the ISS, a very limited number of crimes entailing the death penalty can be invoked, and it would be impossible to commit such crimes onboard the ISS (such as murdering the President of the United States with a fire arm). To put the foregoing in the appropriate perspective, it has to be recalled that almost all the ISS Partners astronauts are training in the United States for long periods of time, thus they accept to be subject to all applicable United States laws and regulations during these periods.



which a crime would have been committed onboard the ISS, something which has not yet been done, a distinction will have to be drawn in the treatment of astronauts of non-Partner States.

#### **4. *Conclusions***

It looks very plausible that, for the foreseeable future, the initiative of the consolidation or further development of rules governing the behaviour of astronauts will remain with the five ISS Partners. One of the challenges for the corresponding States will be to make necessary adaptations to their internal legal systems to be able to exercise, to the fullest extent possible, their jurisdiction and control over not only the elements of the space systems they respectively provide but also the personnel onboard their space vehicles and facilities.

With the initiation over the coming years of missions devoted to space exploration, and depending on the involvement of players from the private sector in these missions, wide-ranging issues may need to be addressed in a regulatory framework, such as those related to the different aspects of the exercise of a given State's jurisdiction and control over space vehicles, or facilities circulating in outer space or built on a celestial body, which are owned and operated exclusively by private entities from the State concerned.